DOCUMENT RESUME

ED 082 707 HE 004 751

AUTHOR	Farver, Albert S.; And Others
TITLE	Longitudinal Predictions of Black and White University Student Grades.
INSTITUTION	Maryland Univ., College Park. Cultural Study Center.
REPORT NO	UM-RR-4-73
PUB DATE	73
NOTE	23p.; Portions of this study were presented at the National Council on Measurement in Education Annual Meeting, New Orleans, February 28, 1973
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	Academic Achievement; *Caucasian Students; College Students; *Grade Prediction; *Grades (Scholastic); *Higher Education; *Negro Students; Predictive Measurement; Research Projects

ABSTRACT

The purpose of the study was to compare prediction of freshman, sophomore, junior and senior year grades for black and white students by sex for new freshmen who entered College Park in fall 1968 and 1969. Predoctors were SAT-Verbal and Math and high school grades (HSGPA) using multiple regression equations. Results showed that many different patterns of prediction for different race-sex subgroups emerged. For instance, HSGPA is less useful in predicting grades beyond the freshman year and is a consistently poor predictor for black males. Black males were the least predictable and white females were the most predictable subgroup. The results were discussed in terms of past research and alternative predictors for subgroups. The writers conclude that predicting grades beyond the freshman year is useful and that separate prediction equations for race-sex subgroups should be employed. As more black students enter colleges and universities, this area of research should continue and the employment of experimental predictors should be attempted. (Author)

FILMED FROM BEST AVAILABLE COPY

ED 082707

CULTURAL STUDY CENTER

Office of Minority Student Education

UNIVERSITY OF MARYLAND

College Park, Maryland

HE 004 751

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED 082707

CULTURAL STUDY CENTER
UNIVERSITY OF MARYLAND
COLLEGE PARK, MARYLAND

1973

LONGITUDINAL PREDICTIONS OF BLACK AND WHITE UNIVERSITY STUDENT GRADES

Albert S. Farver, William E. Sedlacek
and Glenwood C. Brooks, Jr.

Research Report # 4-73

Portions of this study were presented at the National Council on Measurement in Education Annual Meeting, New Orleans, February 28, 1973.

CULTURAL STUDY CENTER

LONGITUDINAL PREDICTIONS OF BLACK AND WHITE UNIVERSITY STUDENT GRADES

Albert S. Farver, William E. Sedlacek and Glenwood C. Brooks, Jr.

Research Report # 4-73

SUMMARY

The purpose of the study was to compare prediction of freshman, sophomore, junior and senior year grades for black and white students by sex for new freshmen who entered College Park in fall 1968 and 1969. Predictors were SAT-Verbal and Math and high school grades (HSGPA) using multiple regression equations. Results showed that many different patterns of prediction for different race-sex subgroups emerged. For instance, HSGPA is less useful in predicting grades beyond the freshman year and is a consistently poor predictor for black males. Black males were the least predictable and white females were the most predictable subgroup. The results were discussed in terms of past research and alternative predictors for subgroups. The writers conclude that predicting grades beyond the freshman year is useful and that separate prediction equations for race-sex subgroups should be employed. As more black students enter our colleges and universities, this area of research should continue and the employment of experimental predictors should be attempted.

The issue of predicting black student performance in higher education has received increased attention in recent years.

Stanley (1971) in summarizing the work on predicting the success of what he called "disadvantaged" students, has concluded that admission to selective colleges and universities should be based substantially on test scores and high school grades, irrespective of whether the applicant is from a minority racial, ethnic or socioeconomic group. Stanley feels pessimistic about the possibility of remediation for disadvantaged students and states (1971, p.642) "an admissions officer ignores test scores at his institution's peril." While there have been an increasing number of studies showing that the same predictors work about as well for blacks or whites (e.g., Thomas and Stanley, 1969; Pfeifer and Sedlacek, 1971), there also exist studies with contrary, unexplained or inconsistent findings (e.g., Clark and Plotkin, 1964; Green and Farquhar, 1965; Cleary, 1968; Pfeifer and Sedlacek, 1970, 1971, 1973; Temp, 1971; Horowitz, Sedlacek and Brooks, 1972; Sedlacek and Brooks, 1973).

While there are a host of variables affecting the prediction of race-sex subgroup performance, one potentially important issue which has been studied very little is prediction beyond the freshman year. Sedlacek (1973) noted that the adjustments required of blacks in attending college may be considerably different than those for whites. For instance, DiCesare, Sedlacek and Brooks (1972) found that blacks who were prepared to deal with racism on a large, primarily white campus were more likely to remain in school than those blacks less prepared.

Thus, if differential variables are affecting education for blacks and whites, it may be that predictions of criteria beyond the freshman year would yield different results. Kallingal (1971) reported multiple R's of .51 for blacks and .53 for whites predicting sophomore cumulative grades using five

standardized verbal and math predictors. He also found differences in homogeneity of regressions between blacks and whites and that the white equation tended to overestimate black sophomore grades.

The purpose of the present study was to compare prediction of freshman, sophomore, junior and senior grades for race-sex subgroups of students at one institution for freshmen entering in two separate years.

Method

All new freshman black students entering the University of Maryland, College Park, in the fall of 1968 (N=126) and fall of 1969 (N=133) who had complete predictor data and completed the freshman year were included in this study. Samples of white students were randomly drawn for purposes of comparison. Some freshman data for 1968 entrants were previously reported in Pfeifer and Sedlacek (1971).

Multiple regression analyses were performed and multiple R's and equations predicting freshman, sophomore, junior and senior year grades individually and cumulatively were obtained. Predictors were SAT-Verbal (V) and Math (M) and high school grade point average (HSGPA). Zero order correlations between predictors and criteria were also examined.

Results

Tables 1 and 2 show means and standard deviations of variables studied by race-sex subgroup for 1968 and 1969 entrants. Generally, means were lowest for black males and highest for white females. Standard deviations tended to be smaller in later years as the sample N's were reduced by attrition. Attrition was similar for blacks and whites.

Tables 3 and 4 show zero order correlations among predictors and criteria by race-sex subgroup for 1968 and 1969 entrants. Generally, predictors correlated significantly with freshman through upperclass university grades in both tables. HSGPA was a better correlate of grades for white males than black males, and was a particularly poor correlate for black males entering in 1968. HSGPA tended to correlate with grades for black and white females and was a relatively higher positive correlate of grades for white females compared to black females in 1968. SAT-V was generally positively correlated with university grades for all subgroups for both 1968 and 1969 entrants, but was relatively less positively correlated for white female 1969 entrants. SAT-M tended to correlate higher with university grades for black males and white females for 1968 entrants. The opposite was true for 1969 entrants.

Tables 5 and 6 show multiple correlations (R's) and standard errors of estimate by race-sex subgroup for 1968 and 1969 entrants, including cross validations. Multiple R's for 1968 entrants ranging from the .60's for all race-sex subgroups for freshman year grades (FrGPA) to the .30's and .40's against senior year grades (SrGPA) and higher against senior cumulative grades (SrCUM). For 1968 entrants the highest R's were generated for white females. Multiple R's were generally lower for 1969 entrants and were highest for white males. Cross validations using opposite year equations showed little shrinkage in multiple R's.

Tables 7 and 8 show regression equations by race-sex subgroup for 1968 and 1969 entrants. Results for both 1968 and 1969 entrants show that HSGPA tended to carry relatively more weight against FrGPA than in later years and was a good predictor for white females and a poor predictor for black males. Generally, SAT-V was the most consistent predictor over the years for all groups and tended to be best for black males, compared to other predictors. However, SAT-V

tended to carry little weight for white females entering in 1969. SAT-M tended to carry relatively little weight for all groups except white females entering in 1968.

Tables 9 and 10 show predicted and actual GPA's by race-sex subgroups for 1968 and 1969 entrants. Table 9 shows that using 1969 entrant equations to predict 1968 entrant grades resulted in consistent overprediction for black females and white males. Black males are *overpredicted* in their freshman year and then *underpredicted* in their later years. White females are initially overpredicted and then predicted relatively accurately after their freshman year. Table 10 shows that 1968 entrant equations tended to underpredict 1969 entrant grades in all years for black females and white males. Black males tended to be initially *underpredicted* and then *overpredicted* in their later years. White females tended to be initially underpredicted and then predicted accurately after their freshman year.

Discussion

Several general conclusions seem apparent from the results. First, prediction of grades beyond the freshman year seems advisable and necessary for a more complete understanding of the relationships among predictors and criteria. The academic predictors employed in this study appear to have considerable utility in predicting grades beyond the freshman year. For instance, HSGPA tended to dominate regression equations predicting FrGPA but was less important in predicting later university grades.

If race-sex subgroups are considered, HSGPA is a consistently poor predictor for black males. Black males tend to look consistently different from the other three subgroups. This has been noted in previous studies concerning FrGPA

predictions (e.g., Stanley and Porter, 1967; Pfeifer and Sedlacek, 1971), and the current study indicates that black males remain less predictable beyond their freshman year and that differential weighting of predictors is necessary. It is quite possible that additional variables are operating for black males in an educational setting. It is important that possible variables be explored, measured and put to practical use. One possible explanation which has not been adequately explored is that for black males, the reinforcement system by which they have learned thus far in life has been more random and less consistent than the reinforcement system for whites. This makes it less likely that black males would respond directly and in a consistent manner to stimuli and reinforcements they encounter in an educational setting. Reasons for this random reinforcement system may be called institutional racism (Knowles and Prewitt, 1969) or a system which prevents consistent reinforcement for efforts of blacks. For instance, a black may work hard to achieve an educational goal but be blocked because there is no money or proper facility to meet his goal. Thus, he is negatively reinforced for his efforts. However, on another occasion similar efforts may result in some gain. Similarly a black may receive some direct or indirect reinforcement through financial or social programs developed by the society for no apparent reason. While some of these same phenomena may occur for whites, a differential and more random reinforcement system seems likely for a larger number of blacks (Grier and Cobbs, 1968; Comer, 1972). Black females may be more predictable than black males because of the role that black females have been allowed to play in the education system. That is, black females have traditionally been allowed greater access to education in the United States and in many ways have been more systematically reinforced than have black males (Grier and Cobbs, 1968; Comer, 1972).

One important variable which appears to predict grades for black males is internal-external control. Gurin, Gurin, Lao and Beattie (1969) found that

blacks who believed that "fate" was responsible for their disadvantaged status had fewer individual aspirations and were less concerned with collective attempts to change society than the externally motivated blacks who believed there were social barriers to black achievement. Sedlacek and Brooks (1973) found that degree of external control was a significant correlate of FrGPA for black males and was not for black females. The internal-external control variable is worth a great deal of further examination in relation to black males.

White females were the most predictable subgroup over the years and as Pfeifer and Sedlacek (1971) pointed out, they tend to dominate the prediction equation for any combined grouping of race-sex subgroups. Thus with the uniqueness of black males and white females, this research strongly supports using separate race-sex subgroups to do any academic predictions. Additionally, the importance of local validity studies done yearly was demonstrated here.

The 1968 and 1969 entrants showed differential prediction patterns and raises an important issue in prediction. We must predict for the *future*, not for the *past*. As our institutions are changing and more and different kinds of blacks are entering colleges and universities, we must not forget to account for this change. Thus, this study and many others should remind us of the need for continuing research on the predictors used. Several studies indicate that while there is a trend in considering other possible predictors nearly all large universities in the United States admit students, black or white, male or female, with standardized tests and high school grades in traditional ways (Sedlacek and Brooks, 1970; Sedlacek, Brooks and Horowitz, 1972; Sedlacek, Brooks and Mindus, 1973; Sedlacek, Lewis and Brooks, 1973). Race-sex subgroups should be differentially predicted and additional variables such as external control researched and utilized. This area of research must continue and is far from resolution.

References

Clark, K. B., & Plotkin, L. *The Negro student at integrated colleges.* New York: National Scholarship Service and Fund for Negro Students, 1964.

Cleary, T. A. Test bias: Prediction of grades of Negro and white students in integrated colleges. *Journal of Educational Measurement*, 1968, 5, 115-124.

Comer, J. P. *Beyond black and white.* New York: Quadrangle, 1972.

DiCesare, A., Sedlacek, W. E., & Brooks, G. C., Jr. Non-intellectual correlates of black student attrition. *Journal of College Student Personnel*, 1972, 13, 319-324.

Green, R. L., & Farquhar, W. W. Negro academic motivation and scholastic achievement. *Journal of Educational Psychology*, 1965, 56, 241-243.

Grier, W. H., & Cobbs, P. M. *Black rage.* New York: Bantam, 1968.

Gurin, P., Gurin, G., Lao, R., & Beattie, M. Internal-external control in the motivational dynamics of Negro youth. *Journal of Social Issues*, 1969, 3, 29-53.

Horowitz, J. L., Sedlacek, W. E., & Brooks, G. C., Jr. Correlates of black and white university student grades beyond the freshman year. *Cultural Study Center Research Report # 7-72*, 1972, University of Maryland.

Kallingal, A. The prediction of grades for black and white students at Michigan State University. *Journal of Educational Measurement*, 1971, 8, 263-265.

Knowles, L. L., & Prewitt, K. *Institutional racism in America.* Englewood Cliffs, N.J.: Prentice-Hall, 1969.

Pfeifer, C. M., Jr., & Sedlacek, W. E. Non-intellectual correlates of black and white student grades at the University of Maryland. *Cultural Study Center Research Report # 3-70*, 1970, University of Maryland.

Pfeifer, C. M., Jr., & Sedlacek, W. E. The validity of academic predictors for black and white students at a predominantly white university. *Journal of Educational Measurement*, 1971, 8, 253-261.

Pfeifer, C. M., Jr., & Sedlacek, W. E. Predicting black student grades with nonintellectual measures. *Journal of Negro Education*, 1973, (in press).

Sedlacek, W. E. Issues in predicting black student success in higher education. *Journal of Negro Education*, 1973, (in press).

Sedlacek, W. E., & Brooks, G. C., Jr. Black freshmen in large colleges: A survey. *Personnel and Guidance Journal*, 1970, 49, 307-312.

Sedlacek, W. E., & Brooks, G. C., Jr. Predictors of academic success for university students in special programs. *Journal of Nonwhite Concerns in Personnel and Guidance*, 1973, (in press).

Sedlacek, W. E., Brooks, G. C., Jr., & Horowitz, J. L. Black admissions to large universities: Are things changing? *Journal of College Student Personnel*, 1972, 13, 305-310.

Sedlacek, W. E., Brooks, G. C., Jr., & Mindus, L. A. Black and other minority admissions to large universities: Three year national trends. *Journal of College Student Personnel*, 1973, 14, 16-21.

Sedlacek, W. E., Lewis, J. A., & Brooks, G. C., Jr. Black and other minority admissions to large universities: A four year national survey of policies and outcomes. *Cultural Study Center Research Report # 3-73*, 1973, University of Maryland.

Stanley, J. C. Predicting college success of the educationally disadvantaged. *Science*, 1971, 171, 640-647.

Stanley, J. C., & Porter, A. C. Correlation of Scholastic Aptitude Test scores with college grades for Negroes versus whites. *Journal of Educational Measurement*, 1967, 4, 199-218.

Temp, G. Validity of the SAT for blacks and whites in thirteen integrated institutions. *Journal of Educational Measurement*, 1971, 8, 245-251.

Thomas, C. L., & Stanley, J. Effectiveness of high school grades for predicting college grades of black students: A review and discussion. *Journal of Educational Measurement*, 1969, 6, 203-215.

TABLE 1

Means and Standard Deviations for 1968 Entrants[a]

	1968-69			1969-70			1970-71			1971-72		
	N	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.
HIGH SCHOOL GRADE POINT AVERAGE (HSGPA)[b]												
Black Males	64	2.54	0.85	54	2.54	0.84	43	2.57	0.89	32	2.79	0.75
Black Females	62	2.92	0.95	51	2.98	0.94	37	3.19	0.95	27	3.25	0.92
White Males	79	2.85	1.00	55	3.05	1.01	44	3.17	1.01	34	3.29	0.91
White Females	99	3.41	0.94	79	3.53	0.91	66	3.61	0.86	56	3.66	0.87
All Blacks	126	2.72	0.92	105	2.75	0.91	80	2.86	0.97	59	3.00	0.86
All Whites	178	3.17	1.00	134	3.33	0.98	110	3.43	0.94	90	3.52	0.90
SAT-VERBAL												
Black Males	64	427.83	80.30	54	432.50	73.41	43	444.56	63.53	32	453.97	64.74
Black Females	62	419.11	80.06	51	424.62	75.43	37	432.08	73.10	27	451.11	64.27
White Males	79	490.08	101.58	55	505.78	106.65	44	512.41	100.23	34	508.53	96.11
White Females	99	511.13	89.61	79	511.58	91.73	66	521.54	90.63	56	527.27	91.09
All Blacks	126	423.54	80.03	105	429.86	73.73	80	438.79	67.97	59	452.66	63.98
All Whites	178	501.79	95.41	134	509.20	97.78	110	517.89	94.24	90	520.19	92.93
SAT-MATH												
Black Males	64	466.45	86.14	54	470.07	87.38	43	470.98	79.69	32	477.53	86.67
Black Females	62	404.24	82.81	51	405.92	86.84	37	412.38	83.72	27	434.11	82.19
White Males	79	555.78	96.32	55	568.11	91.73	44	574.39	92.97	34	574.94	95.32
White Females	99	514.93	97.60	79	510.73	96.74	66	518.41	97.94	56	527.25	98.67
All Blacks	126	435.84	89.94	105	439.84	92.05	80	443.88	86.23	59	457.66	86.71
All Whites	178	533.06	98.88	134	534.28	98.53	110	540.80	99.44	90	545.27	99.63
FRESHMAN YEAR GRADE POINT AVERAGE (FrGPA)												
Black Males	64	1.64	0.63	54	1.76	0.51	43	1.82	0.46	32	1.92	0.45
Black Females	62	1.75	0.72	51	1.86	0.68	37	2.06	0.57	27	2.20	0.48
White Males	79	1.99	0.89	55	2.30	0.67	44	2.38	0.64	34	2.47	0.66
White Females	99	2.40	0.83	79	2.60	0.62	66	2.65	0.59	56	2.71	0.56
All Blacks	126	1.69	0.68	105	1.81	0.60	80	1.93	0.53	59	2.05	0.48
All Whites	178	2.22	0.88	134	2.48	0.66	110	2.54	0.62	90	2.62	0.61

[a]Sample sizes vary due to incomplete predictor data in the freshman year and attrition in later years.

[b]HSGPA is a standardized measure which converts all high school grading systems to a system with a mean of 3.00 and a standard deviation of 1.00, based on a random sample of all new freshmen in fall 1967.

TABLE 1

Means and Standard Deviations for 1968 Entrants[a]
(Continued)

	1968-69			1969-70			1970-71			1971-72		
	N	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.
SOPHOMORE YEAR GRADE POINT AVERAGE (SoGPA)												
Black Males				54	2.05	0.73	43	2.24	0.50	32	2.34	0.52
Black Females				51	2.11	0.53	37	2.37	0.63	27	2.52	0.49
White Males				55	2.35	0.74	44	2.44	0.62	34	2.58	0.61
White Females				79	2.83	0.60	66	2.92	0.52	56	2.95	0.53
All Blacks				105	2.08	0.79	80	2.30	0.57	59	2.42	0.51
All Whites				134	2.63	0.70	110	2.73	0.61	90	2.81	0.58
SOPHOMORE CUMULATIVE GPA (SoCUM)												
Black Males				54	1.95	0.52	43	2.09	0.40	32	2.18	0.41
Black Females				51	1.99	0.73	37	2.23	0.56	27	2.38	0.43
White Males				55	2.36	0.62	44	2.45	0.55	34	2.55	0.56
White Females				79	2.69	0.63	66	2.79	0.50	56	2.83	0.48
All Blacks				105	1.97	0.41	80	2.15	0.48	59	2.27	0.43
All Whites				134	2.56	0.64	110	2.65	0.55	90	2.73	0.53
JUNIOR YEAR GRADE POINT AVERAGE (JrGPA)												
Black Males							43	2.18	0.66	32	2.38	0.51
Black Females							37	2.35	0.74	27	2.56	0.57
White Males							44	2.47	0.76	34	2.59	0.62
White Females							66	3.03	0.54	56	3.06	0.51
All Blacks							80	2.26	0.70	59	2.46	0.54
All Whites							110	2.81	0.69	90	2.88	0.60
JUNIOR CUMULATIVE GPA (JrCUM)												
Black Males							43	2.15	0.41	32	2.27	0.41
Black Females							37	2.30	0.55	27	2.47	0.38
White Males							44	2.46	0.55	34	2.57	0.52
White Females							66	2.88	0.48	56	2.93	0.46
All Blacks							80	2.22	0.49	59	2.36	0.40
All Whites							110	2.72	0.55	90	2.79	0.51

[a]Sample sizes vary due to incomplete predictor data in the freshman year and attrition in later years.

TABLE 1

Means and Standard Deviations for 1968 Entrants[a]
(Continued)

	1968-69			1969-70			1970-71			1971-72		
	N	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.
SENIOR YEAR GRADE POINT AVERAGE (SrGPA)												
Black Males										32	2.65	0.52
Black Females										27	2.77	0.59
White Males										34	2.83	0.62
White Females										56	3.27	0.63
All Blacks										59	2.71	0.55
All Whites										90	3.10	0.66
SENIOR CUMULATIVE GPA (SrCUM)												
Black Males										32	2.37	0.39
Black Females										27	2.56	0.36
White Males										34	2.64	0.51
White Females										56	3.01	0.43
All Blacks										59	2.46	0.39
All Whites										90	2.87	0.49

[a]Sample sizes vary due to incomplete predictor data in the freshman year and attrition in later years.

TABLE 2

Means and Standard Deviations for 1969 Entrants[a]

	1969-70			1970-71			1971-72		
	N	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.
HIGH SCHOOL GRADE POINT AVERAGE (HSGPA)[b]									
Black Males	58	2.61	1.01	48	2.66	1.00	36	2.62	0.88
Black Females	75	3.09	0.99	59	3.14	1.03	40	3.18	1.13
White Males	70	3.13	1.06	56	3.22	1.10	45	3.22	1.15
White Females	52	3.34	0.71	46	3.39	0.69	36	3.35	0.72
All Blacks	133	2.88	1.02	107	2.93	1.04	76	2.92	1.05
All Whites	122	3.22	0.93	102	3.30	0.94	81	3.28	0.98
SAT-VERBAL									
Black Males	58	410.14	84.46	48	420.13	81.76	36	422.39	78.96
Black Females	75	421.19	82.22	59	414.54	85.29	40	427.85	86.04
White Males	70	491.47	96.67	56	502.96	83.00	45	495.87	81.82
White Females	52	492.25	80.98	46	490.72	81.11	36	489.03	83.83
All Blacks	133	416.37	83.07	107	417.05	83.38	76	425.26	82.26
All Whites	122	491.80	89.96	102	497.44	81.98	81	492.83	82.27
SAT-MATH									
Black Males	58	425.12	94.92	48	425.75	94.74	36	423.69	95.96
Black Females	75	427.52	83.83	59	429.08	77.78	40	441.48	74.82
White Males	70	551.47	104.93	56	559.52	94.12	45	549.76	95.51
White Females	52	504.04	81.70	46	505.63	81.78	36	506.69	86.94
All Blacks	133	426.47	88.50	107	427.59	85.40	76	433.05	85.37
All Whites	122	531.25	98.22	102	535.22	92.36	81	530.62	93.74
FRESHMAN YEAR GRADE POINT AVERAGE (FrGPA)									
Black Males	58	1.89	0.66	48	2.01	0.54	36	1.99	0.44
Black Females	75	2.06	0.69	59	2.18	0.58	40	2.39	0.52
White Males	70	2.26	0.82	56	2.48	0.62	45	2.53	0.63
White Females	52	2.57	0.54	46	2.65	0.48	36	2.60	0.47
All Blacks	133	1.99	0.68	107	2.10	0.56	76	2.20	0.52
All Whites	122	2.39	0.73	102	2.56	0.57	81	2.56	0.56
SOPHOMORE YEAR GRADE POINT AVERAGE (SoGPA)									
Black Males				48	1.76	0.74	36	1.97	0.50
Black Females				59	2.12	0.72	40	2.38	0.52
White Males				56	2.48	0.60	60	2.50	0.60
White Females				46	2.78	0.54	36	2.79	0.46
All Blacks				107	1.96	0.75	76	2.18	0.56
All Whites				102	2.62	0.59	81	2.63	0.56

[a]Sample sizes vary due to incomplete predictor data in the freshman year and attrition in later years.

[b]HSGPA is a standardized measure which converts all high school grading systems with a mean of 3.00 and a standard deviation of 1.00, based on a random sample of all new freshmen in fall 1967.

TABLE 2

Means and Standard Deviations for 1969 Entrants[a]

	1969-70			1970-71			1971-72		
	N	MEAN	S.D.	*N*	MEAN	S.D.	*N*	MEAN	S.D.
SOPHOMORE CUMULATIVE GPA (SoCUM)									
Black Males				48	1.92	0.56	36	1.99	0.43
Black Females				59	2.12	0.67	40	2.39	0.48
White Males				56	2.47	0.56	45	2.51	0.58
White Females				46	2.72	0.45	36	2.70	0.40
All Blacks				107	2.03	0.63	76	2.20	0.49
All Whites				102	2.59	0.53	81	2.59	0.51
JUNIOR YEAR GRADE POINT AVERAGE (JrGPA)									
Black Males							36	1.84	0.72
Black Females							40	2.59	0.69
White Males							45	2.67	0.69
White Females							36	2.91	0.68
All Blacks							76	2.23	0.80
All Whites							81	2.77	0.71
JUNIOR CUMULATIVE GPA (JrCUM)									
Black Males							36	2.01	0.48
Black Females							40	2.52	0.47
White Males							45	2.65	0.60
White Females							36	2.79	0.41
All Blacks							76	2.28	0.53
All Whites							81	2.68	0.53

[a]Sample sizes vary due to incomplete predictor data in the freshman year and attrition in later years.

TABLE 3

Zero Order Correlations Among Predictors and Criteria[a] for 1968 Entrants

	HSGPA	SAT-V	SAT-M	FrGPA
HSGPA		.18 .52	.10 .49	.23 .58
SAT-V	.38 .56		.51 .54	.56 .51
SAT-M	.37 .50	.65 .62		.46 .41
FrGPA	.60 .65	.47 .39	.49 .35	

1968-69
← r's with p <.05 are[b] BM .25, WM .22, BF .25, WF .20.

	HSGPA	SAT-V	SAT-M	FrGPA	SoGPA	SoCUM
HSGPA		.03 .53	.07 .39	.15 .45	.22 .46	.22 .48
SAT-V	.30 .55		.48 .62	.40 .62	.29 .59	.41 .66
SAT-M	.39 .48	.71 .57		.47 .36	.23 .37	.35 .40
FrGPA	.60 .69	.43 .61	.47 .53		.57 .64	.80 .91
SoGPA	.47 .65	.54 .59	.23 .56	.57 .71		.90 .87
SoCUM	.61 .69	.41 .61	.35 .56	.80 .89	.90 .89	

1969-70
← r's with p <.05 are[b] BM .27, WM .27, BF .27, WF .22.

	HSGPA	SAT-V	SAT-M	FrGPA	SoGPA	SoCUM	JrGPA	JrCUM
HSGPA		.02 .46	.12 .36	.12 .39	.19 .36	.17 .39	.16 .24	.21 .37
SAT-V	.27 .56		.38 .65	.35 .59	.17 .43	.32 .57	.42 .38	.37 .55
SAT-M	.32 .44	.68 .56		.39 .35	.31 .34	.41 .39	.31 .07	.43 .29
FrGPA	.55 .63	.54 .57	.63 .46		.55 .65	.78 .91	.42 .48	.74 .80
SoGPA	.39 .58	.53 .52	.44 .53	.71 .62		.90 .88	.43 .70	.78 .89
SoCUM	.51 .68	.60 .61	.56 .54	.90 .92	.93 .87		.52 .60	.89 .92
JrGPA	.28 .47	.27 .36	.13 .37	.59 .55	.60 .78	.63 .72		.72 .86
JrCUM	.46 .66	.51 .58	.41 .53	.85 .83	.86 .90	.93 .96	.86 .87	

1970-71
← r's with p <.05 are[b] BM .30, WM .30, BF .33, WF .24.

	HSGPA	SAT-V	SAT-M	FrGPA	SoGPA	SoCUM	JrGPA	JrCUM	SrGPA	SrCUM
HSGPA		-.13 .51	.04 .28	-.15 .41	-.10 .27	-.14 .35	-.06 .29	-.05 .35	-.03 .18	-.04 .33
SAT-V	.26 .53		.39 .62	.35 .63	.14 .59	.32 .65	.43 .43	.41 .61	.38 .21	.43 .54
SAT-M	.26 .41	.61 .60		.39 .31	.27 .43	.39 .38	.28 .17	.42 .33	.26 .00	.43 .26
FrGPA	.47 .59	.42 .51	.58 .47		.51 .70	.80 .93	.43 .55	.71 .84	.45 .30	.72 .75
SoGPA	.42 .56	.31 .47	.31 .54	.57 .59		.88 .90	.48 .79	.79 .92	.39 .61	.73 .90
SoCUM	.53 .65	.45 .55	.48 .57	.86 .91	.88 .87		.57 .71	.91 .61	.54 .47	.87 .89
JrGPA	.18 .42	-.07 .26	-.15 .38	.26 .50	.29 .82	.29 .72		.78 .95	.49 .71	.81 .90
JrCUM	.45 .62	.30 .51	.24 .56	.75 .80	.76 .92	.85 .96	.72 .87		.54 .63	.95 .97
SrGPA	.21 .24	.32 .22	.23 .31	.49 .38	.41 .50	.53 .48	.62 .41	.71 .51		.74 .79
SrCUM	.22 .61	.37 .46	.37 .50	.70 .77	.65 .90	.77 .93	.72 .85	.94 .97	.88 .59	

1971-72
r's with p <.05 are[b] BM .35, WM .35, BF .38, WF .26.

[a]Male figures are above the diagonal/females below.
Black figures are to the left/whites to the right.
[b]BM=black males, WM=white males, BF=black females, WF=white females.

TABLE 4

Zero Order Correlations Among Predictors and Criteria[a] for 1969 Entrants

	HSGPA	SAT-V	SAT-M	FrGPA
HSGPA		.41 .36	.41 .48	.28 .52
SAT-V	.37 .26		.62 .62	.42 .47
SAT-M	.32 .34	.44 .52		.22 .48
FrGPA	.48 .53	.36 .23	.43 .34	

1969-70

← r's with p <.05 are[b] BM .26, WM .24, BF .23, WF .27.

	HSGPA	SAT-V	SAT-M	FrGPA	SoGPA	SoCUM
HSGPA		.35 .56	.35 .52	.45 .52	.24 .38	.37 .53
SAT-V	.45 .26		.59 .48	.36 .35	.26 .43	.40 .40
SAT-M	.43 .28	.56 .56		.24 .42	.14 .34	.24 .45
FrGPA	.46 .45	.54 .29	.41 .31		.46 .68	.77 .88
SoGPA	.38 .29	.44 .35	.38 .31	.63 .59		.83 .90
SoCUM	.48 .40	.51 .36	.41 .30	.81 .85	.88 .92	

1970-71

← r's with p <.05 are[b] BM .29, WM .27, BF .26, WF .29.

	HSGPA	SAT-V	SAT-M	FrGPA	SoGPA	SoCUM	JrGPA	JrCUM
HSGPA		.27 .33	.20 .55	.18 .50	.26 .35	.21 .51	.19 .19	.25 .46
SAT-V	.56 .37		.52 .52	.23 .46	.23 .45	.31 .46	.18 .26	.18 .55
SAT-M	.55 .29	.59 .59		.05 .49	.10 .44	.14 .50	.13 .07	.10 .52
FrGPA	.53 .49	.51 .25	.47 .30		.47 .69	.74 .87	.33 .37	.64 .88
SoGPA	.69 .41	.58 .30	.48 .37	.55 .57		.91 .92	.27 .47	.42 .86
SoCUM	.71 .51	.56 .31	.46 .36	.79 .86	.92 .90		.31 .43	.56 .90
JrGPA	.38 .17	.37 -.21	.28 -.01	.42 .45	.49 .58	.49 .58		.77 .62
JrCUM	.52 .46	.56 .14	.41 .27	.67 .82	.73 .86	.78 .94	.86 .79	

1971-72

← r's with p <.05 are[b] BM .33, WM .29, BF .31, WF .33.

[a]Male figures are above the diagonal/females below. Black figures are to the left/whites to the right.

[b]BM=black males, WM=white males, BF=black females, WF=white females.

TABLE 5

Multiple Correlations and Standard Errors of Estimate for 1968 Entrants

	N	*R*	S.E.	R_c	*N*	*R*	S.E.	R_c	*R*	S.E.	R_c	*N*	*R*	S.E.	R_c	*R*	S.E.	R_c	*N*	*R*	S.E.	*R*	S.E.
Black Males	64	.61	.52	.60	54	.39	.72	.35	.51	.46	.44	43	.47	.60	.39	.52	.37	.34	32	.40	.49	.52	.35
Black Females	62	.67	.55	.67	51	.63	.68	.62	.71	.54	.69	37	.36	.72	.34	.61	.46	.61	27	.35	.59	.42	.34
White Males	79	.63	.71	.62	55	.61	.60	.61	.68	.47	.63	44	.45	.71	.32	.57	.47	.53	34	.28	.62	.55	.44
White Females	99	.65	.65	.65	79	.73	.42	.72	.76	.42	.75	66	.50	.48	.46	.73	.34	.66	56	.39	.46	.67	.33
	304		(FrGPA)		239		(SoGPA)			(SoCUM)		190		(JrGPA)			(JrCUM)		149		(SrGPA)		(SrCUM)

R_c=Cross-validated *R* using coefficients from 1969 entrants.

TABLE 6

Multiple Correlations and Standard Errors of Estimate for 1969 Entrants

	N	*R*	S.E.	R_c	*N*	*R*	S.E.	R_c	*R*	S.E.	R_c	*N*	*R*	S.E.	R_c	*R*	S.E.	R_c
Black Males	58	.44	.61	.40	48	.31	.73	.29	.47	.51	.44	36	.23	.73	.21	.78	.48	.20
Black Females	75	.57	.58	.56	59	.50	.64	.50	.59	.56	.58	40	.43	.64	.41	.61	.38	.61
White Males	70	.61	.66	.61	56	.50	.53	.49	.59	.47	.50	45	.53	.61	.37	.64	.48	.55
White Females	52	.55	.46	.54	46	.42	.50	.41	.49	.40	.49	36	.36	.66	.29	.50	.37	.42
	255		(FrGPA)		209		(SoGPA)			(SoCUM)		157		(JrGPA)			(JrCUM)	

R_c=Cross-validated *R* using coefficients from 1968 entrants.

TABLE 7

Regression Equations for 1968 Entrants

	CONSTANT	COEFFICIENTS SAT-V	SAT-M	HSGPA	CRITERION
Predictive Index[a]	-.04093	+.00180	+.00054	+.35911	FrGPA
Black Males	-.80889	+.00325*	+.00172	+.09839	
Black Females	-.60284	+.00138	+.00189	+.34450*	FrGPA
White Males	-.50632	+.00226	+.00060	+.37027*	
White Females	+.24479	+.00039	+.00014	+.54807*	
Black Males	+.02359	+.00264	+.00094	+.17204	
Black Females	-.88367	+.00408*	+.00101	+.28517*	SoGPA
White Males	+.26255	+.00342*	-.00015	+.14673	
White Females	+.37226	+.00153*	+.00143*	+.26879*	
Black Males	+.05062	+.00236*	+.00123	+.11510	
Black Females	-.68051	+.00220	+.00165	+.35644*	SoCUM
White Males	+.43403	+.00339*	-.00019	+.10631	
White Females	+.06914	+.00166*	+.00129*	+.31560*	
Black Males	-.31771	+.00366*	+.00131	+.09826	
Black Females	+.95882	+.00315	-.00141	+.19182	JrGPA
White Males	+1.62339	+.00407*	-.00259	+.07830	
White Females	+1.52849	+.00039	+.00097	+.22112*	
Black Males	+.44029	+.00174	+.00158*	+.07665	
Black Females	+.27453	+.00305*	+.00018	+.19762*	JrCUM
White Males	+1.05582	+.00307*	-.00075	+.08387	
White Females	+.85189	+.00110*	+.00109	+.24739*	
Black Males	+1.08253	+.00257	+.00083	**	
Black Females	+1.30158	+.00242	+.00026	+.08172	SrGPA
White Males	+2.44064	+.00192	-.00136	+.05940	
White Females	+2.22416	-.00023	+.00098	+.16256*	
Black Males	+.85139	+.00188	+.00139	**	
Black Females	+1.63058	+.00114	**	+.12696	SrCUM
White Males	+1.31824	+.00304*	-.00064	+.04241	
White Females	+1.37633	+.00024	+.00124*	+.23296*	

[a]General equation used by the University to predict freshman grades, based on random sample of all new freshmen in fall 1967.

* $p<.05$.
** F to add variable in stepwise program had $p<.01$.

TABLE 8

Regression Equations for 1969 Entrants

	CONSTANT	COEFFICIENTS SAT-V	SAT-M	HSGPA	CRITERION
Predictive Index[a]	-.03216	+.00147	+.00047	+.39971	FrGPA
Black Males	+.59613	+.00322*	-.00066	+.09895	
Black Females	-.02956	+.00092	+.00224*	+.24150*	FrGPA
White Males	-.30834	+.00202	+.00131	+.27277*	
White Females	+.80616	**	+.00120	+.34883*	
Black Males	+.70879	+.00216	-.00048	+.13312	
Black Females	+.14862	+.00234	+.00135	+.13241	SoGPA
White Males	+.66595	+.00232*	+.00044	+.12550	
White Females	+1.12113	+.00153	+.00079	+.15128	
Black Males	+.67694	+.00234*	-.00033	+.15074	
Black Females	+.07486	+.00252*	+.00093	+.19280*	SoCUM
White Males	+.64620	+.00133	+.00096	+.19306*	
White Females	+1.12736	+.00119	+.00066	+.19862*	
Black Males	+.94354	+.00105	+.00033	+.11802	
Black Females	+1.30504	+.00185	**	+.15524	JrGPA
White Males	+.24495	+.00287*	+.00141	+.06935	
White Females	+3.04227	-.00326	+.00114	+.26293	
Black Males	+1.39534	+.00071	**	+.12206	
Black Females	+1.18105	+.00207*	+.00014	+.12176*	JrCUM
White Males	+.18249	+.00266*	+.00131	+.11754	
White Females	+1.75663	-.00079	+.00109	+.25945*	

[a]General equation used by the University to predict freshman grades, based on random sample of all new freshmen in fall 1967.

* $p<.05$.
** F to add variable in stepwise program had $p<.01$.

TABLE 9

Comparison of Predicted[a] and Actual Mean GPA's for 1968 Entrants

	N	P.I.[b]	PRED. FrGPA	FrGPA	N	P.I.	FrGPA	PRED. SoGPA	SoGPA	PRED. SoCUM	SoCUM
Black Males	64	1.89	2.53*	1.64	54	1.91	1.76	1.76*	2.05	1.92	1.95
Black Females	62	1.98	1.97*	1.75	51	2.02	1.86	2.09	2.11	2.10	1.99
White Males	79	2.16	2.19*	1.99	55	2.28	2.30	2.47	2.35	2.45	2.36
White Females	99	2.39	2.62*	2.40	79	2.43	2.60	2.84	2.83	2.77	2.69

	N	P.I.	FrGPA	SoGPA	SoCUM	PRED. JrGPA	JrGPA	PRED. JrCUM	JrCUM
Black Males	43	1.94	1.82	2.24	2.09	1.87*	2.18	2.02	2.15
Black Females	37	2.11	2.06	2.37	2.23	2.60	2.35	2.52*	2.30
White Males	44	2.34	2.38	2.44	2.45	2.75*	2.47	2.67	2.46
White Females	66	2.48	2.65	2.92	2.79	2.88	3.03	2.85	2.88

	N	P.I.	FrGPA	SoGPA	SoCUM	JrGPA	JrCUM	SrGPA	SrCUM
Black Males	32	2.04	1.92	2.34	2.18	2.38	2.27	2.65	2.37
Black Females	27	2.18	2.20	2.52	2.38	2.56	2.47	2.77	2.56
White Males	34	2.37	2.47	2.58	2.55	2.59	2.57	2.83	2.64
White Females	56	2.51	2.71	2.95	2.83	3.06	2.93	3.27	3.01

[a]Predicted grades are generated from cross validations with opposite year.

[b]P.I.=Predictive Index - General equation used by the University to predict freshman grades, based on a random sample of all new freshmen in fall 1967.

*Significantly different ($p<.05$) from actual GPA.

TABLE 10

Comparison of Predicted[a] and Actual Mean GPA's for 1969 Entrants

	N	P.I.[b]	PRED. FrGPA	FrGPA	N	P.I.	FrGPA	PRED. SoGPA	SoGPA	PRED. SoCUM	SoCUM
Black Males	58	1.81	1.51*	1.89	48	1.85	2.01	1.99	1.76	1.87	1.92
Black Females	75	2.02	1.85*	2.06	59	2.03	2.18	2.14	2.12	2.06	2.12
White Males	70	2.20	2.09	2.26	56	2.26	2.48	2.37	2.48	2.38	2.47
White Females	52	2.26	2.34*	2.57	46	2.28	2.65	2.76	2.78	2.61	2.72

	N	P.I.	FrGPA	SoGPA	SoCUM	PRED. JrGPA	JrGPA	PRED. JrCUM	JrCUM
Black Males	36	1.84	1.99	1.97	1.99	2.04	1.84	2.05	2.01
Black Females	40	2.08	2.39	2.38	2.39	2.29*	2.59	2.29*	2.52
White Males	45	2.25	2.53	2.50	2.51	2.47	2.67	2.44	2.60
White Females	36	2.27	2.60	2.79	2.70	2.95	2.91	2.77	2.79

[a]Predicted grades are generated from cross validations with opposite year.

[b]P.I.=Predictive Index - General equation used by the University to predict freshman grades, based on a random sample of all new freshmen in fall 1967.

*Significantly different ($p<.05$) from actual GPA.